

Abstract

The present invention provides a method and apparatus for dispensing small volumes of selected substances, such as biological reagents or samples, onto substrates. According to one general embodiment, a plurality of spaced, 5 tandemly-arranged substrates are advanced, e.g., by way of a conveyor, along a transport pathway extending over a reagent-supply location, such as a reservoir supported at a fixed position in a base. From a position over the reagent-supply location and the pathway, a reagent-transfer instrument, or tip, is extended along an axis through an intervening region, e.g., an opening defined by a surface of 10 the conveyor, separating an adjacent pair of advancing substrates to contact reagent held at the reagent-supply location. The reagent-transfer instrument is then withdrawn, along with a portion of such reagent, through the intervening region to a position above the transport pathway. Once the conveyor has advanced a selected substrate, upstream of the intervening region, to a position 15 aligned with the axis of the reagent-transfer instrument, a selected amount of reagent is transferred from the instrument onto a selected site of the substrate. Advantageously, the apparatus and method are readily adaptable for the production of micro-arrays having a great number of closely spaced spots.